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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,343	01/26/2001	Carl S. Brown	11532-004001	6029

7590 12/19/2003

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EXAMINER

EDWARDS, PATRICK L

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 12/19/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,343

Applicant(s)

BROWN, CARL S.

Examiner

Patrick L Edwards

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 6-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5, drawn to flat field calibration method, classified in class 382, subclass 254.
 - II. Claims 6-9, drawn to offset map noise reduction, classified in class 382, subclass 274.
 - III. Claims 10-14, drawn to field curvature reduction, classified in class 382, subclass 275.
 - IV. Claims 15-17, drawn to discontinuity reduction between panels, classified in class 382, subclass 268.

The inventions are distinct, each from the other because of the following reasons:

Inventions I, II, III, and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable.

In the instant case, invention I has separate utility such as image scanning. Invention II has separate utility such as offset map noise reduction in CCD arrays. Invention III has separate utility such as correcting the curvature distortion in a lens system. Invention IV has separate utility such as image analysis or compression where the image is first divided into blocks. See MPEP § 806.05(d).

2. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Victor J. Castellucci on 12-01-2003 a provisional election was made with traverse to prosecute the invention of group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Bruijns (USPN 5,974,113). With regard to claim 1, Bruijns discloses obtaining a plurality of images (column 3 lines 15-20), and then performing a linear regression on the plurality of images to obtain a gain and an offset (column 2 lines 52-61). The process of performing linear regression (as recited in the claim) is inherent in the process of doing a least-squares fit to a linear sensitivity characteristic (as disclosed in Bruijns). Bruijns further discloses determining the desired image using the gain and the offset (column 2 line 64 – column 3 line 8). The composite image composed from corrected brightness values as disclosed in Bruijns is analogous to the desired image as recited in the claim.

With regard to claim 2, Bruijns discloses obtaining a plurality of images ranging from dark current to full-well (column 3 lines 29-36). The dark parts as disclosed in Bruijns are analogous to dark current as recited in the claim. In addition, the bright parts as disclosed in Bruijns are analogous to full-well as recited in the claim.

With regard to claim 3, Bruijns discloses performing linear regression on each pixel of the plurality of images (column 2 lines 52-61). The process of performing linear regression (as recited in the claim) is inherent in the process of doing a least-squares fit to a linear sensitivity characteristic (as disclosed in Bruijns). In addition, the individual sub-image signals as disclosed in Bruijns are analogous to individual pixels as recited in the claim.

With regard to claim 4, Bruijns further discloses calculating the desired image using the equation: $(\text{desired_image} = (\text{measured_image} - \text{offset_map}) / \text{gain_map})$ (column 7 lines 56-65). Bruijns discloses a linear equation in which a desired image is linearly related to a measured image with variables of gain and offset. This equation is simply solved for the desired image variable in order to produce the equation as recited in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bruijns in view of Mathies (USPN 4,979,824). The arguments as to the relevance of Bruijns as applied in paragraph 4 above are incorporated herein. Bruijns discloses obtaining a plurality of images, but does not disclose moving a calibration slide while obtaining said plurality of images. Mathies, however, discloses moving a calibration slide in a scanning operation (Mathies column 6 lines 21-32). The substrate slide disclosed in Mathies is analogous to a calibration slide as recited in the claim. It would have been obvious to one reasonably skilled in the art at the time of the invention to combine the method of moving a calibration slide while scanning an image as taught by Mathies with Bruijns' flat-field calibration method. Such a modification would have allowed for a method of viewing an entire biological sample (Mathies column 6 lines 48-61).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (703) 305-6301. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

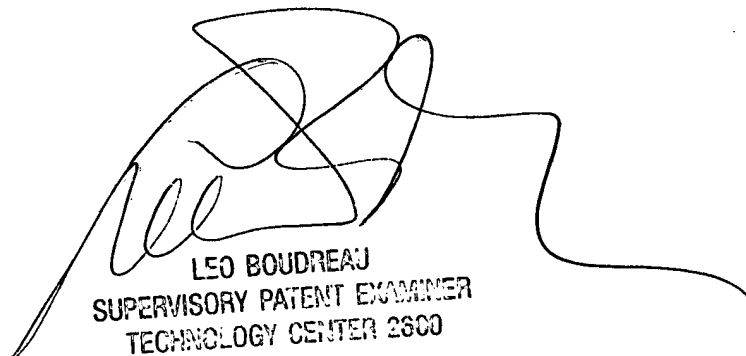
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Patrick L Edwards

Art Unit 2621

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A handwritten signature in cursive script, appearing to read 'Pat L Edwards', written in black ink.A large, stylized handwritten signature in black ink, possibly reading 'Leo Boudreau', written over a rectangular stamp.

LEO BOUDREAU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600